502
COMPACT
DISC PLAYER

SERVICE MANUAL

502
COMPACT
DISC PLAYER

NAD

SAFETY INFORMATION

CAUTION

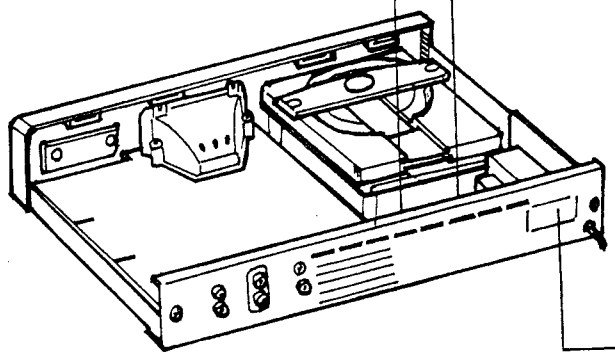
CAUTION- INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED. AVOID EXPOSURE TO BEAM.

VORSICHT! UNSICHTBARE LASERSTRAHLUNG TRITT AUS. WENN DECKEL GEÖFFNET UND WENN SICHERHEITSVERRIEGELUNG ÜBERBRÜCKT IST. NICHT DEM STRAHL AUSSETZEN!

VARNING- OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRR ÄR URKOPPLAD. STRÅLEN ÄR FARLIG.

ADVARSEL- USYNLIG LASERSTRÅLING VED ÅBNING. NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSÆTTELSE FOR STRÅLING.

ATTENTION- RAYONNEMENT LASER ET ELECTROMAGNETIQUE DANGEREUX SI OUVERT AVEC L' ENCLENCHEMENT DE SECURITE ANNULE.



CLASS 1 LASER PRODUCT

The lightning flash with arrowhead, within an equilateral triangle, is intended to alert the user of the presence of uninsulated "dangerous voltage" within the product's enclosure; that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user of the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES.
OPERATION IS SUBJECT TO THE FOLLOWING TWO COND ITIONS:
(1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND
(2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRED OPERATION.

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SPECIFICATIONS

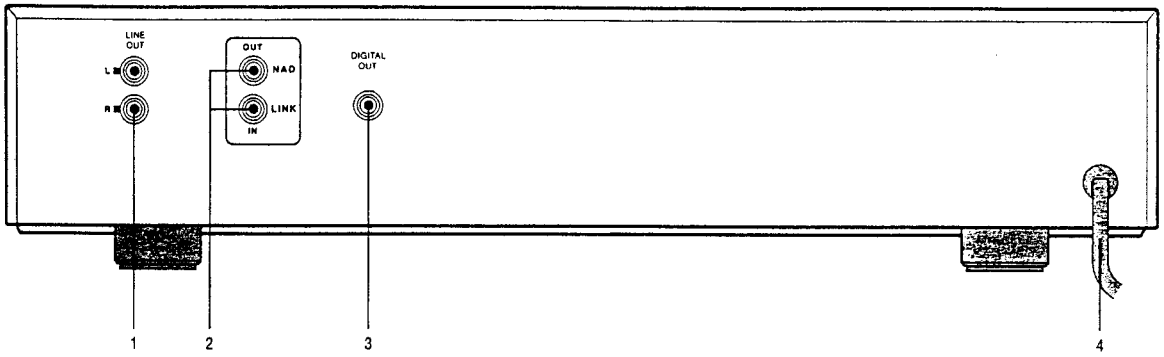
Disc capacity	single disc, 120 or 80mm
Programming capability	16 tracks
Digital-to-Analogue Convertion	MASH, 18-bit resolution
Digital filter	4 times over-sampled, linear phase with 18-bit coefficients
Analogue filter	5-pole active
Frequency response 5Hz-20KHz	-0/-0.5dB
De-Emphasis error	<+/-0.3dB
THD (at 0dB, 1KHz)	0.0025%
Intermodulation distortion (19 & 20KHz)	<-100dB
Dynamic range	98dB
Linearity	+/-0.5dB; 0 to -90dB
Signal-to-noise ratio A weighted de-emphasis off	106dB
de-emphasis on	110dB
Channel Separation 1KHz	>100dB
10KHz	>80dB
Wow and flutter	Unmeasureable (quartz crystal accuracy)
Output impendance	120 ohm
Output level at 0dB	2 Vrms
Digital error correction	CIRC with double error correction in C1 and C2

PHYSICAL SPECIFICATION

Width x Hight x Depth	420 x 90 x 260mm
Net weight	4.1Kg
Shipping weight	4.9Kg

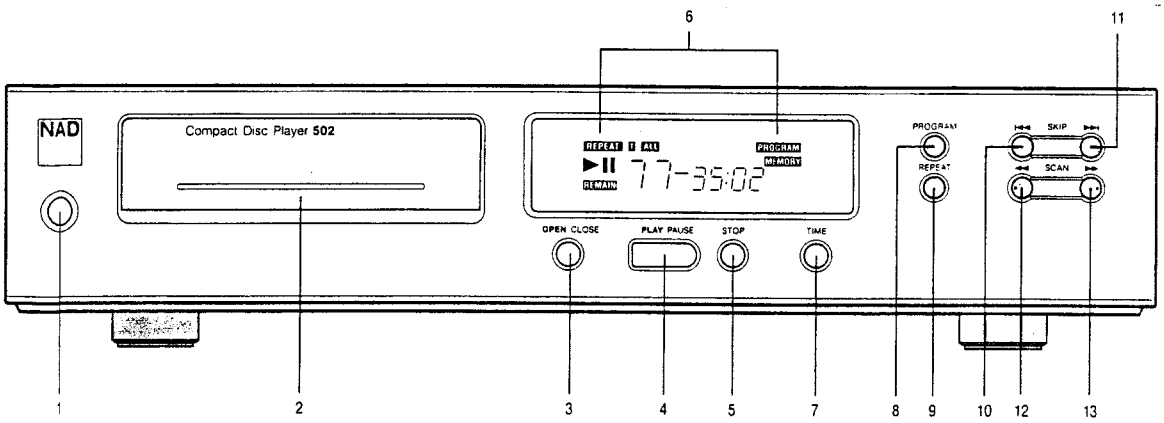
REAR PANEL/FRONT PANEL VIEW

REAR PANEL



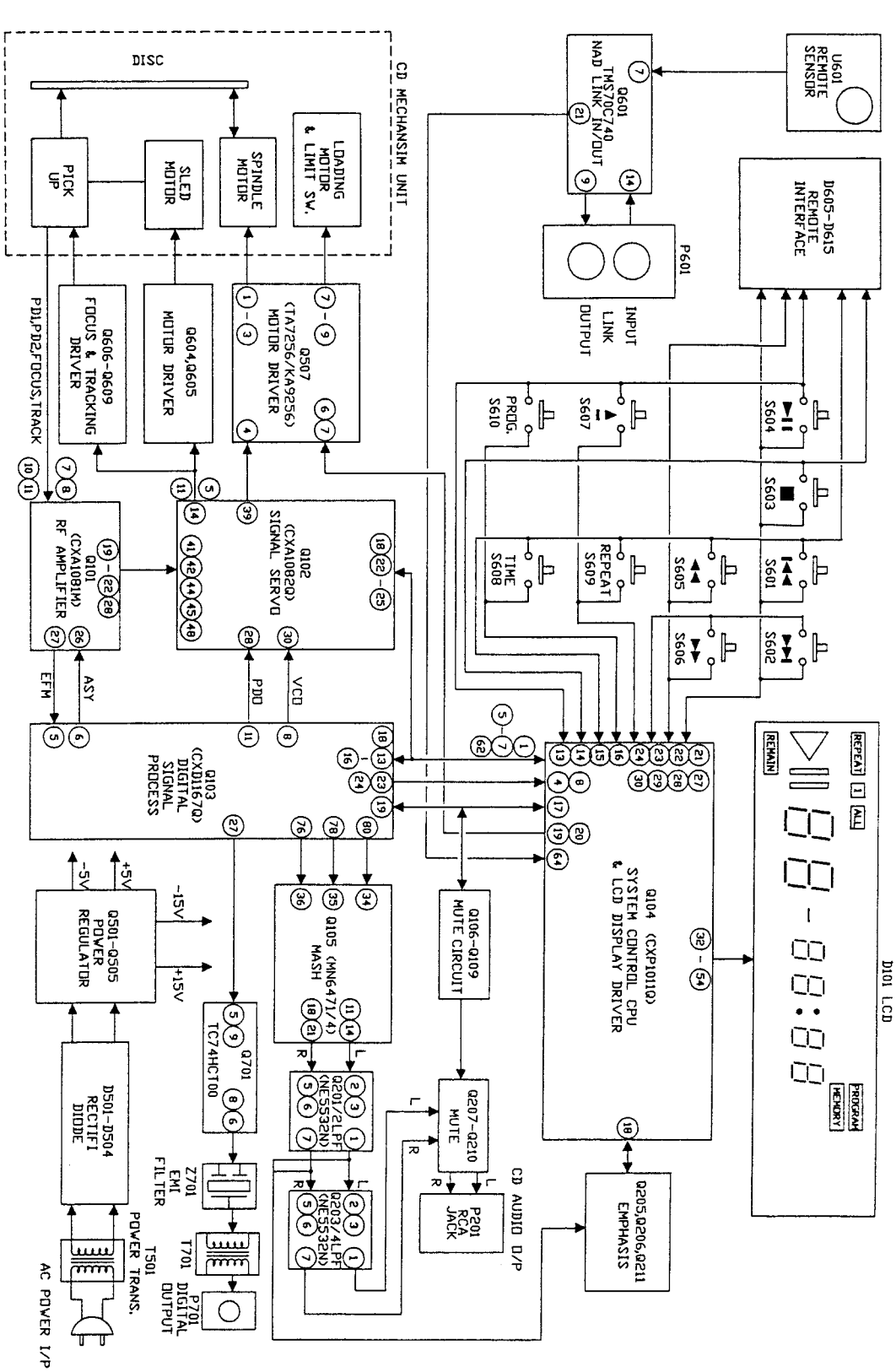
1. LINE OUTPUT
2. NAD LINK IN/OUT
3. DIGITAL OUTPUT
4. AC LINE CORD

FRONT PANEL

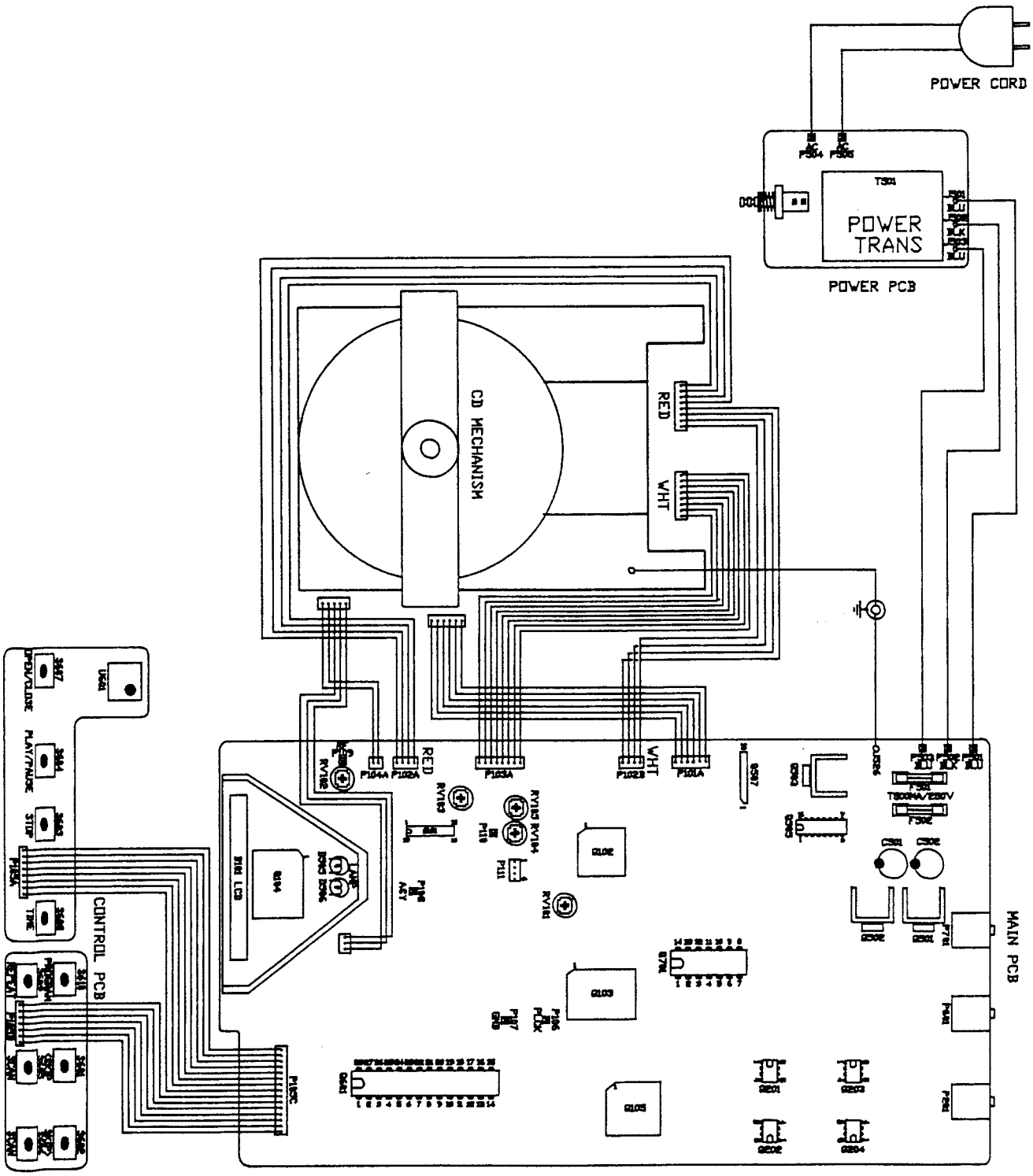


1. POWER ON/OFF
2. DISC DRAWER
3. OPEN/CLOSE
4. PLAY/PAUSE
5. STOP
6. DISPLAY
7. TIME
8. PROGRAM
9. REPEAT
10. SKIP Back (|<<)
11. SKIP Forward (>>|)
12. SCAN Back (<<)
13. SCAN Forward (>>)

BLOCK DIAGRAM



WIRING DIAGRAM



DISASSEMBLY INSTRUCTIONS

TOP COVER REMOVAL

1. Remove machine screws M 4.0x6.0 (① to ④) from the side panels.
   Remove tapping screw M 3.0x8.0 ⑤ from the back panel.
   Refer to figure No. 1.

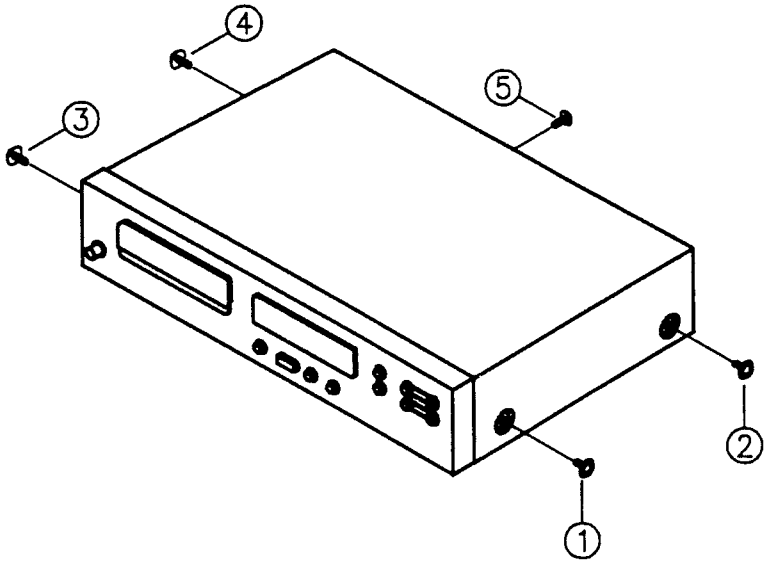


Fig. 1.

2. Pull both sides of the TOP COVER slightly outwards and tilt approx. 35°
   and then remove in the direction as indicated by pointer ⑦ in
   figure No. 2.

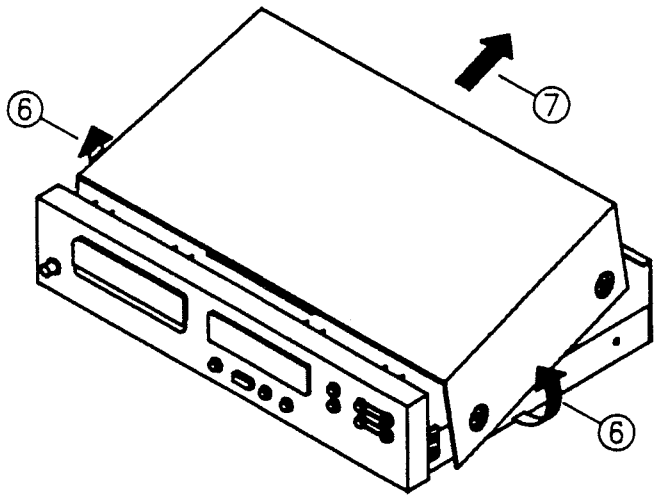
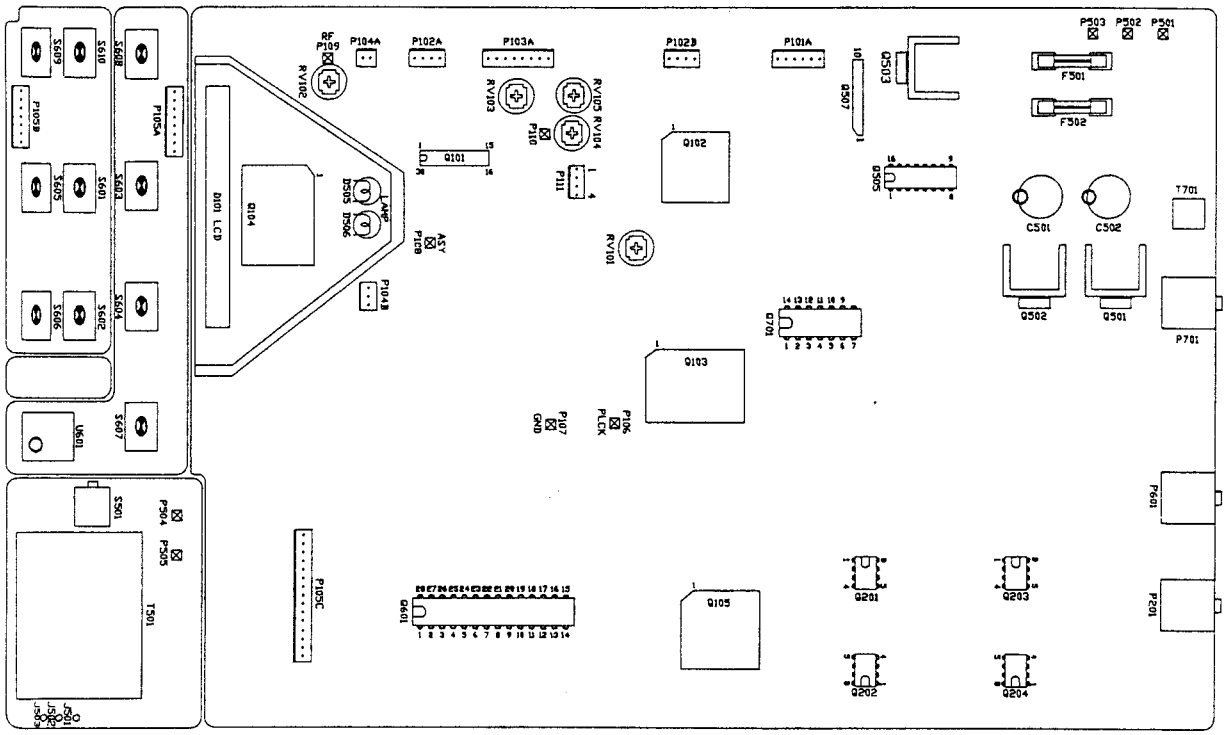


Fig. 2.

ADJUSTMENT POINTS DIAGRAM



NAD-502 PCB ADJUSTMENT POINTS DIAGRAM

ALIGNMENT PROCEDURE

REQUIRED INSTRUMENTS:
SPECIAL JIG (SEE FIG. 1) OSCILLOSCOPE (BANDWIDTH GREATER THAN 40 MHz)
FREQUENCY COUNTER TEST DISC (SONY YEDS-7)

NOTE:
Exact adjustment can only be performed with special factory jigs
However the following alignment procedure should produce a well aligned player assuming no fault conditions are present.
It is suggested that the position of the preset resistors setting is noted or marked before any adjustment is attempted so that these settings can be returned to, should no improvement be noted after adjustment.

Step A: PLL Adjustment

(1) Turn power ON and press the STOP key.
(2) Short circuit P108 (ASSY) to P107 (GND).
(3) Connect the frequency counter to P106 (CLK) and P107 (GND).
(4) Adjust RV101 for a reading of 4.2318+/-0.01MHz.
(5) After adjustment is completed remove the short circuit between P108 and P107.

Step B: RF Adjustment

(1) Load the test disc and set the unit into PLAY mode.
(2) Connect the scope to P109 (RF) and P107 (GND).
Scope setting: Coupling : AC.
Vertical sensitivity : 0.2V/div.
Horizontal time base: 0.5uS/div.
(3) Adjust RV102 so that the 3T component of the waveform is maximum and the eye pattern is at its best shape (see Fig.2)

Step C: EF Balance adjustment

(1) Turn the power OFF, remove P111 and replace it with the special jig shown in Fig. 1.
(2) Connect the scope as shown Fig. 1 and switch the jig to the "ON" position.
Scope setting: Coupling : DC.
Vertical sensitivity : 0.5V/div.
Horizontal time base: 2mS/div.
(3) Load the test disc and put the unit into the PLAY mode.
(4) Adjust RV103 so that the tracking error waveform is symmetrical. (See Fig. 3).

NOTE: BEFORE CONTINUING REFER TO PAGE 11 FOR GUIDANCE ON FOCUS AND TRACKING GAIN ADJUSTMENT.

Step D: Focus gain adjustment

(1) Switch the special jig to "OFF" and leave the scope connected.
(2) Scope settings: Coupling : DC.
Vertical sensitivity : 0.1V/div.
Horizontal time base: 2mS/div.
(3) Adjust RV105 so that the DC level is between 120 and 200mV.
(4) Turn the power OFF, remove the jig and return the original socket to P111.

Step E: Tracking gain adjustment

(1) Turn the power ON, load the test disc and press PLAY.
(2) Connect the scope to pin 3 of P111.
Scope setting: Coupling : DC.
Vertical sensitivity : 0.2V/div.
Horizontal time base: 2mS/div.
(3) Adjust RV104 so that the waveform is as shown in Fig. 4(a).

FIG. 1

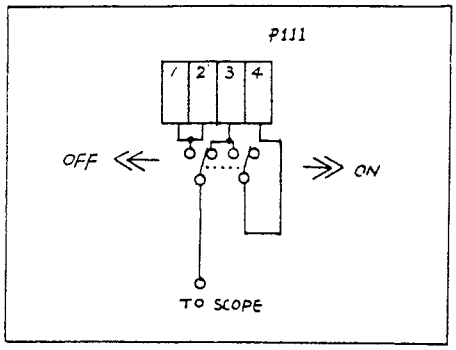


FIG.2(a)

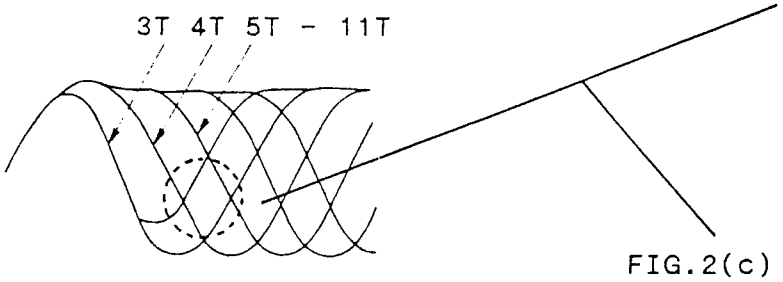


FIG.2(b) Poor eye pattern

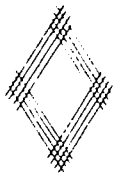


FIG.2(c) Good eye pattern

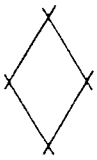


FIG.3

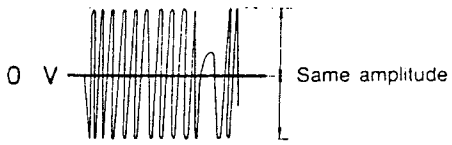


FIG.4(a) Good waveform

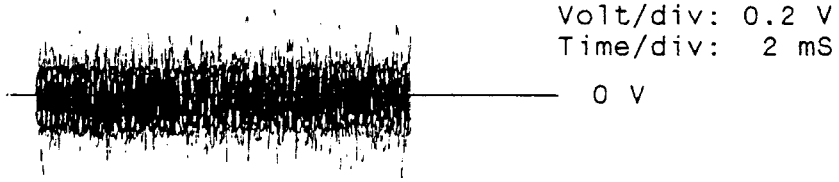


FIG.4(b) High tracking gain

(higher frequency than for low gain)

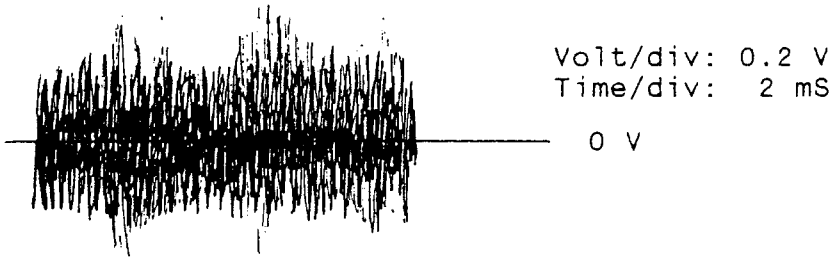
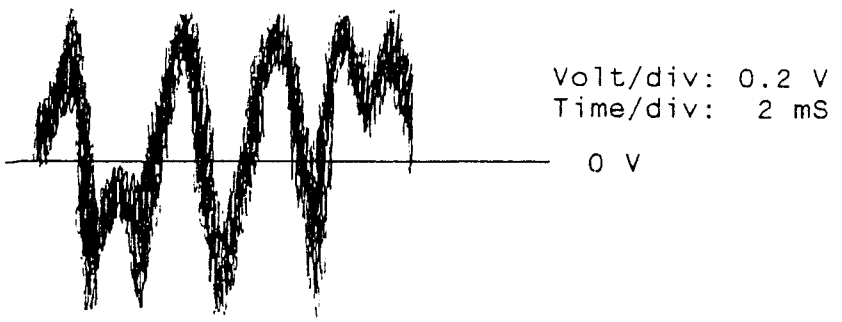


FIG.4(c) Low tracking gain



FOCUS/TRACKING GAIN ADJUSTMENT

NOTE: It is recommended that these adjustment are not carried out unless absolutely necessary.

A frequency response analyzer is necessary to carry out this adjustment precisely. However this adjustment has a wide tolerance so that even if the adjustment has not been performed exactly the player will still work with an acceptable level of performance.
The focus and tracking gain determine not only the vertical and horizontal tracking characteristics, but also the amount of mechanical noise from the optical blocks two axis device and its sensitivity to mechanical shock.
Correct adjustment will be at the point where all the above criteria are satisfied.
* When the gain is too high, the mechanical noise is high.
* When the gain is too low, the susceptibility to mechanical shock and skipping will be poor.

SYMPTOM	GAIN	
	focus	tracking
Time taken from stop to play is excessive, or track skip time is excessive. (normally approx. 2 sec)	low or high	low or high
Music does not start when play is pressed or track selection is made but disc rotates.		low
Drawer opens shortly after pressing PLAY.	low or high	
Intermittent sound during play or counter stops.		low
High mechanical noise from optical block during play.	high	high

IMPORTANT NOTES

INSTRUCTION FOR HANDLING OPTICAL SYSTEM BLOCK PICK-UP

Electrostatic breakdown of the laser diode in the optical system block may occur due to a potential difference caused by electrostatic charge accumulated on clothing, human boby, etc. A ground must be provided as follows to prevent any electrostatic charge during unpacking or repair work.

1. Ground for Human Body

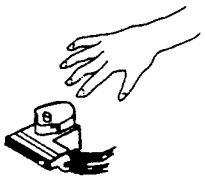
Be sure to wear a grounding band (1M ohm) that is properly grounded to remove any static electricity that may be charged on the body.

2. Ground for Work Bench

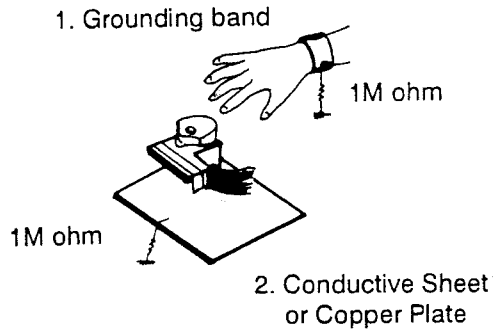
Be sure to place a conductive sheet (1M ohm) or copper plate with proper grounding on the work bench or other surface on which the pick-up is to be placed.

3. Because the static electricity charge on the clothing does not discharge through the body grounding band, do not let clothing contact the pick-up unit.

INCORRECT



CORRECT



NOTE: Laser diodes are so susceptible to damage from static electricity that even if a static discharge does not ruin the diode, it can shorten its life or cause it to work improperly.

PRECAUTIONS FOR CHECKING BEAM EMISSION OF LASER DIODE

The laser beam of this unit is focused on the reflecting surface of the objective lens in the optical system block. Therefore, keep your eyes at least 12 inches (30 cm) away from the objective lens when the laser diode is ON.

(Operation Check Method for Laser Diode and Focus Search Function.)

When the POWER switch is turned ON after the chucking arm is removed, observe the objective lens and confirm that the following operations are performed properly.

(The optical system block should be at the lead-in area position when it is checked at this time.)

(1) The laser should be at the innermost position after the chucking arm is removed.

(2) The diffused light of the laser beam can be seen when the POWER switch is turned ON.

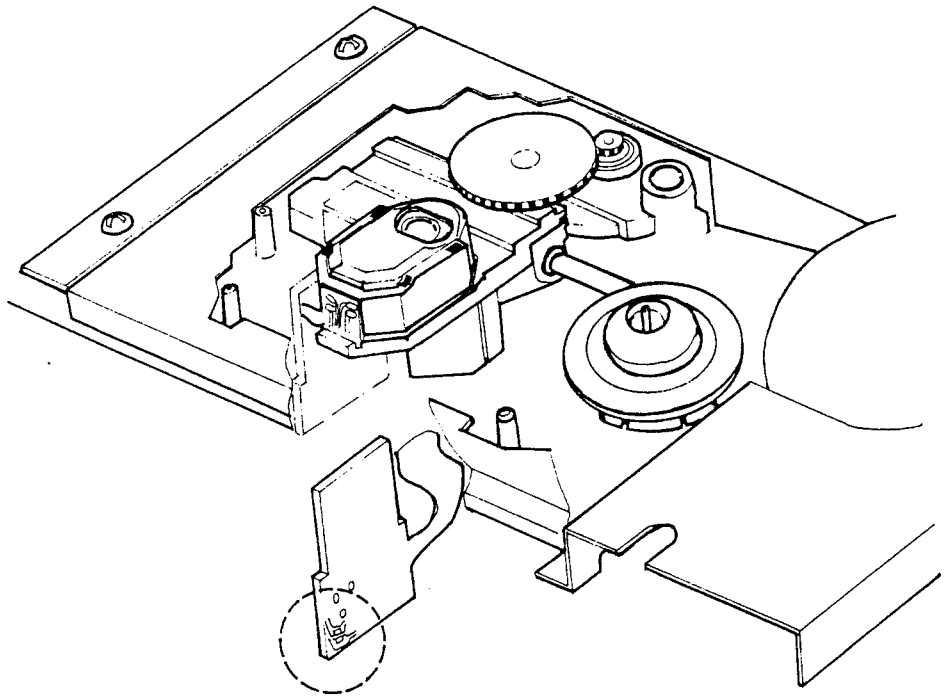
(3) Vertical (up and down) movement of the objective lens (2 or 3 times) will take place.

PRECAUTIONS WHEN CHANGING LASER PICK-UP

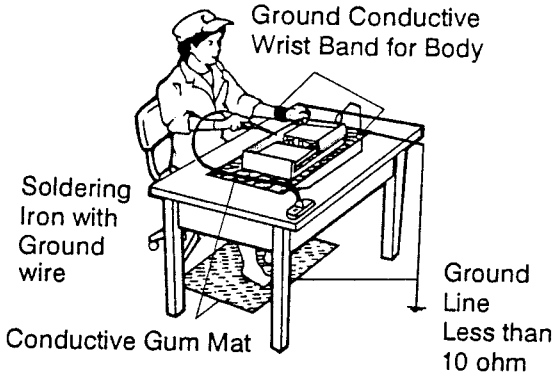
When removing pick-up assembly, short circuit the PCB pattern as shown in the drawing in order to protect the pick up before removal.

NOTE: Replacement pickup assemblies are supplied with the PCB pattern already protected.

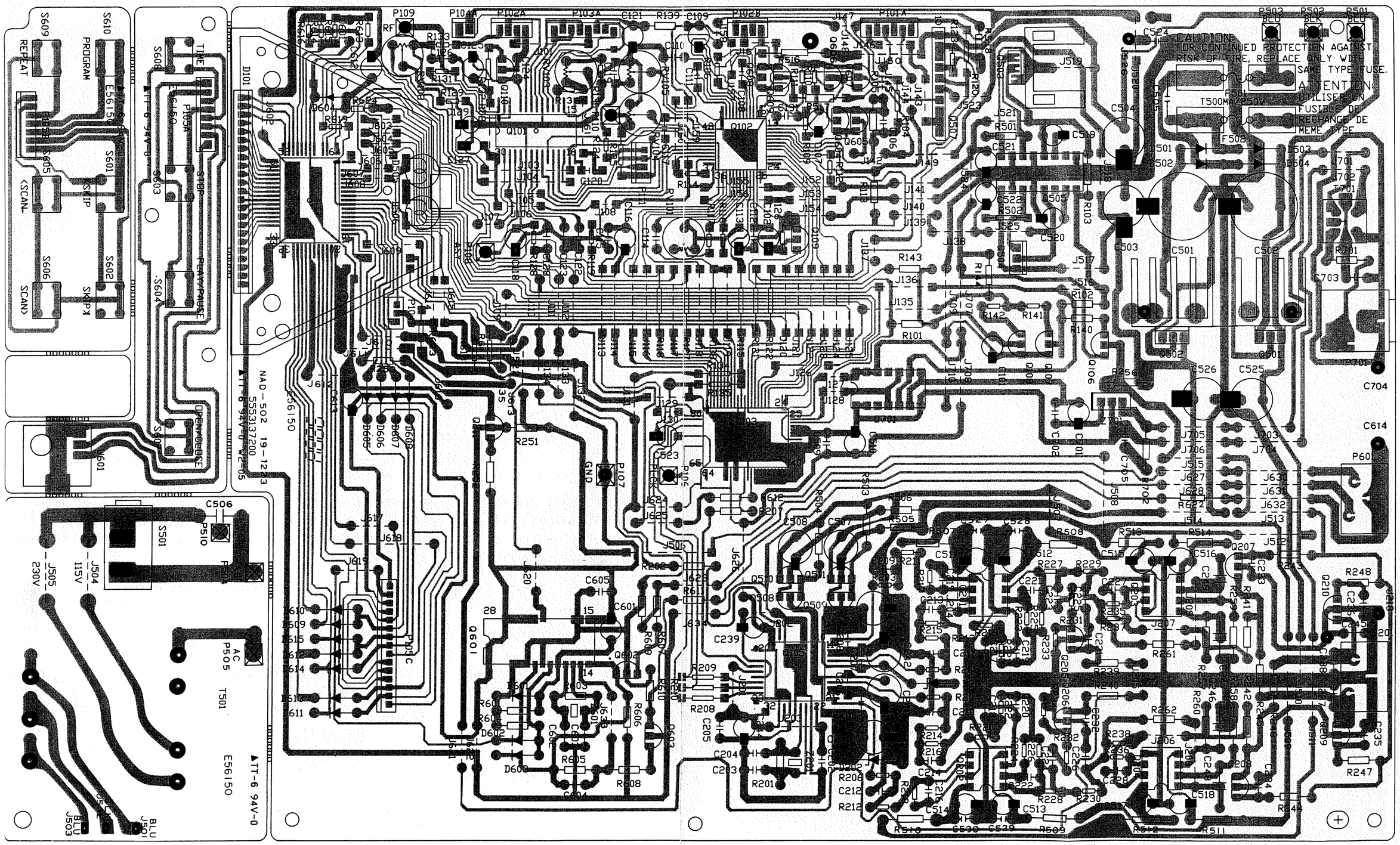
DO NOT REMOVE THE SHORT CIRCUITS UNTIL YOU HAVE FINISHED FITTING THE PICK-UP.



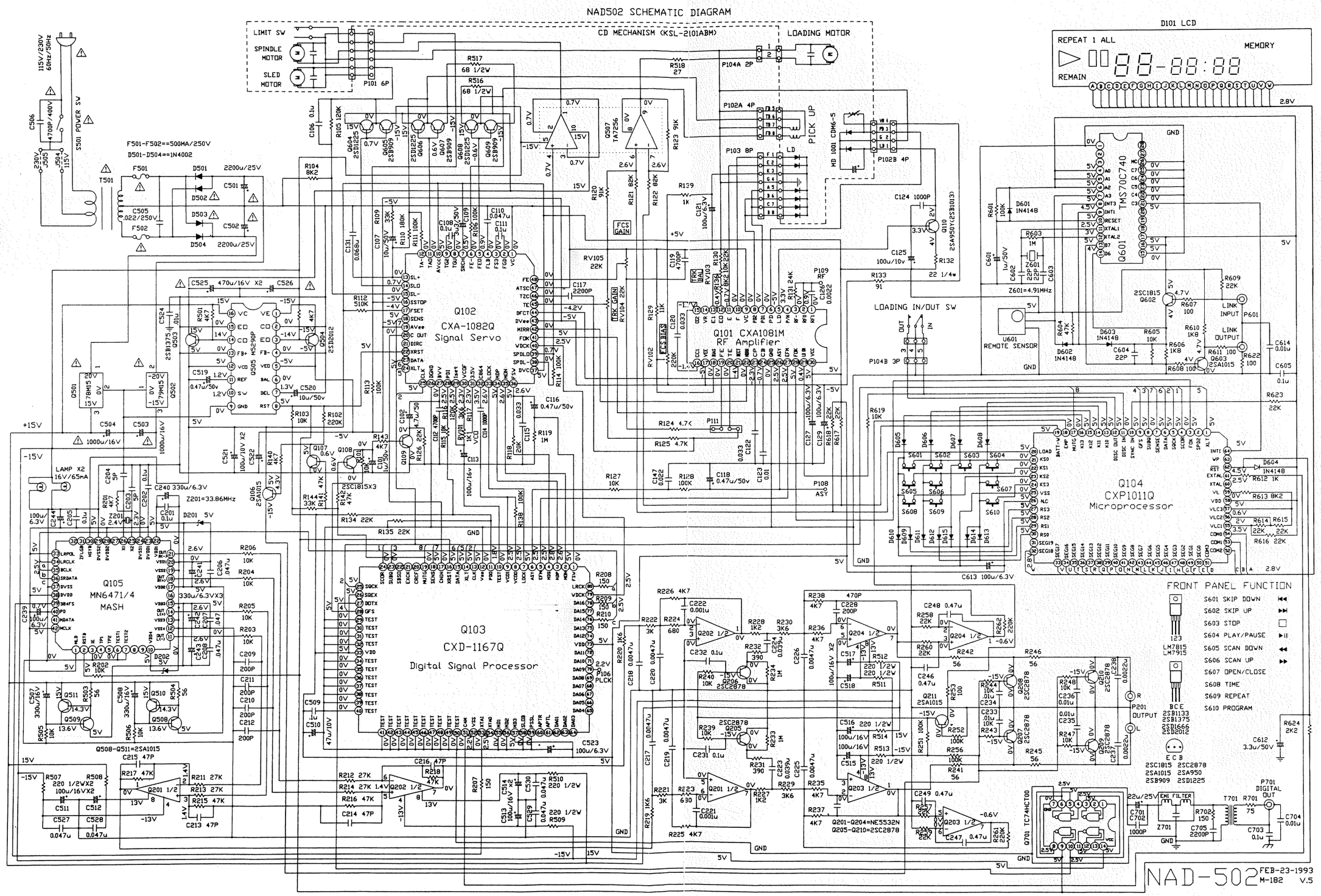
Caution:
Laser diodes are extremely susceptible to damage from static electricity. Even if a static discharge does not ruin the diode, it can shorten its life or cause it to work improperly. When replacing the pick-up, use a conductive mat, a grounded soldering iron, and so on, to protect the laser diode from static damage.



PCB LAYOUT (PARTS SIDE)

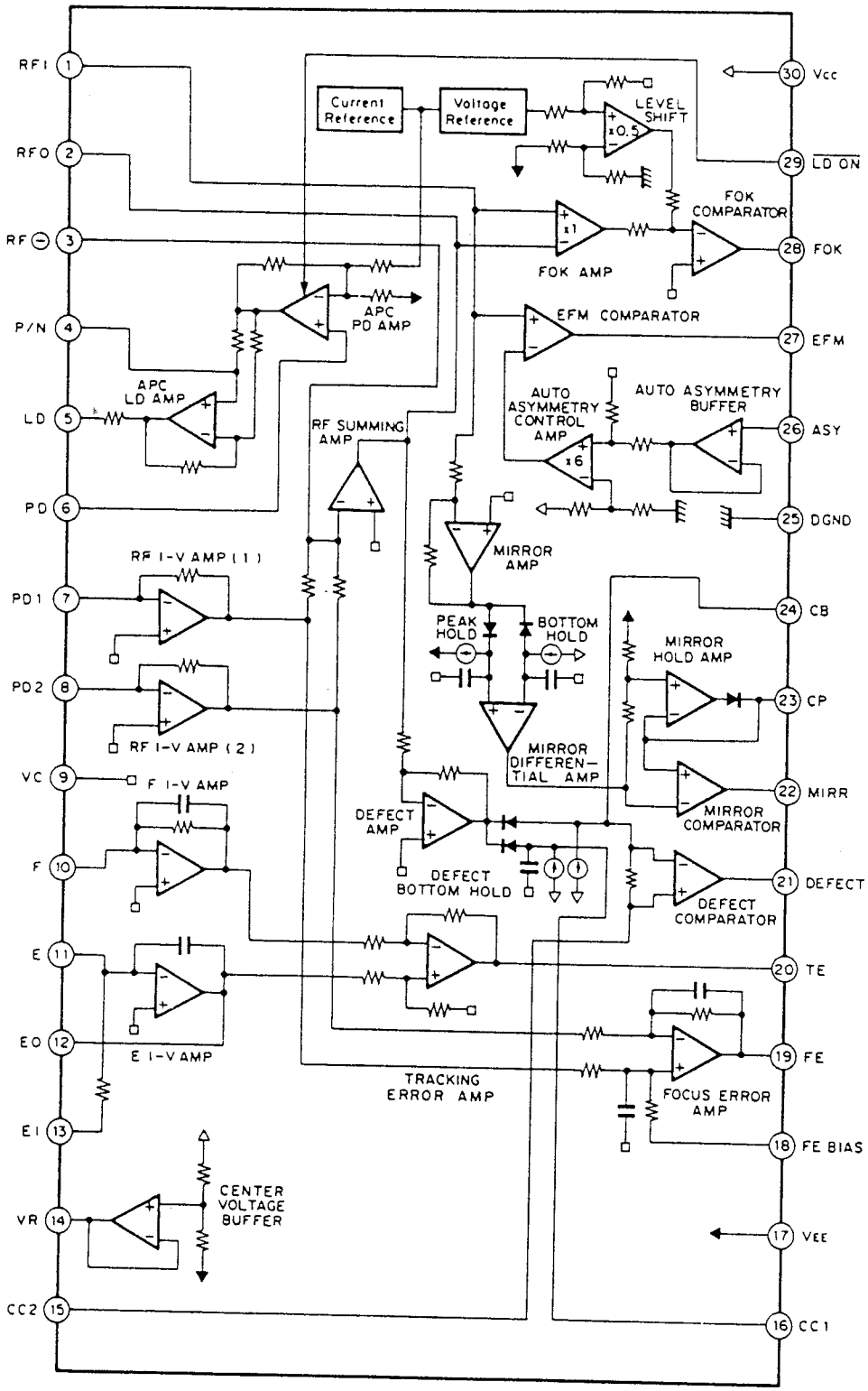


SCHEMATIC DIAGRAM

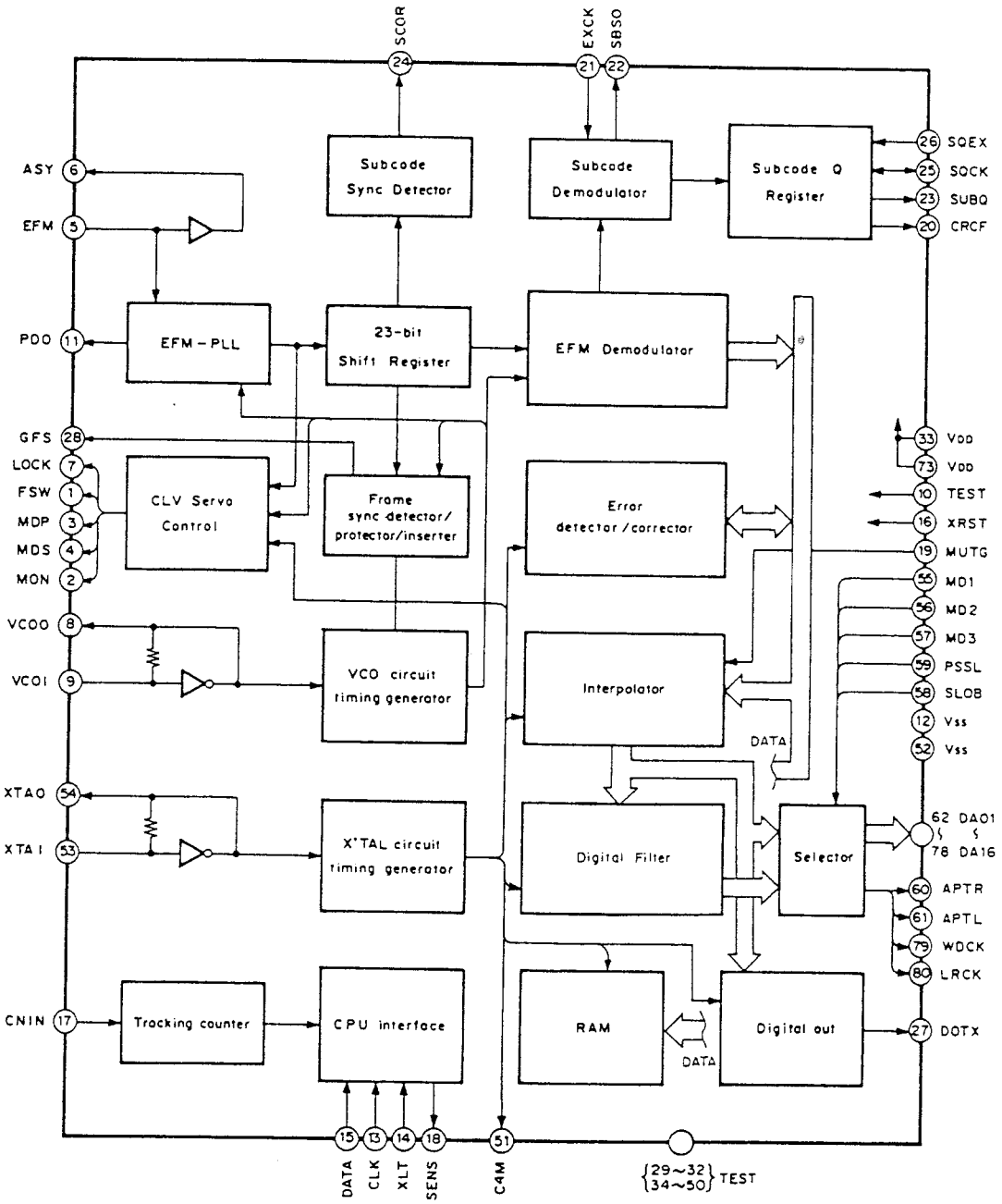


IC BLOCK DIAGRAM

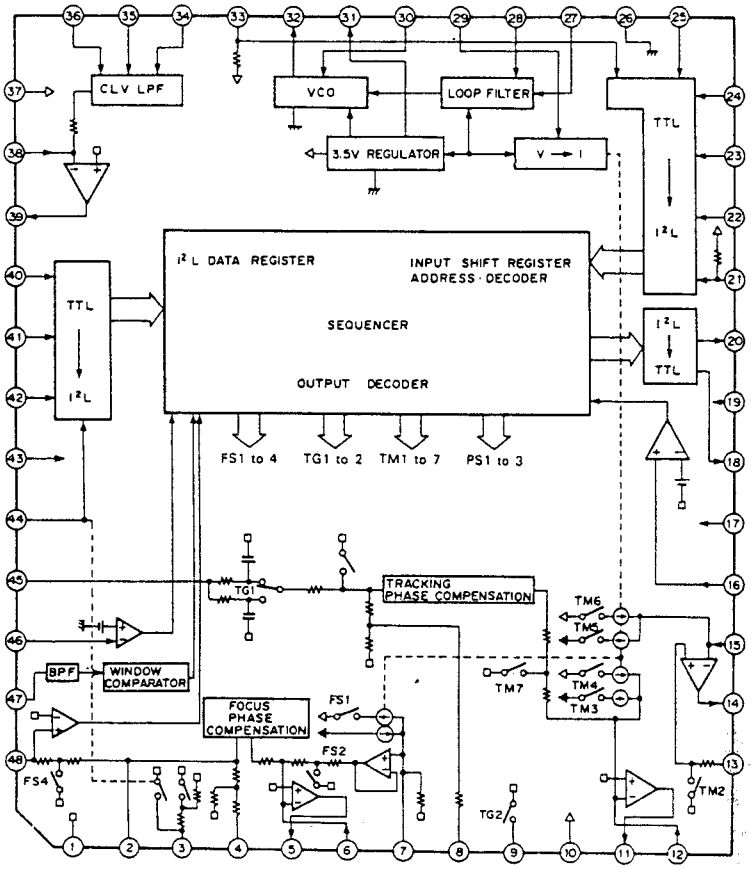
Q101: CXA1081M



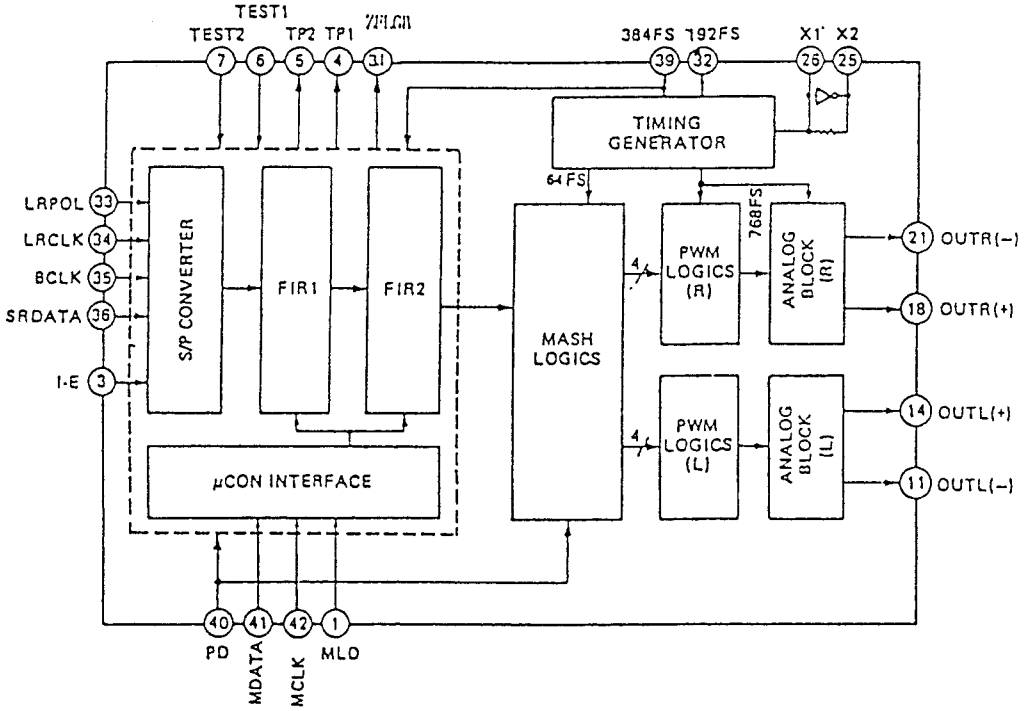
Q103: CXD1167Q



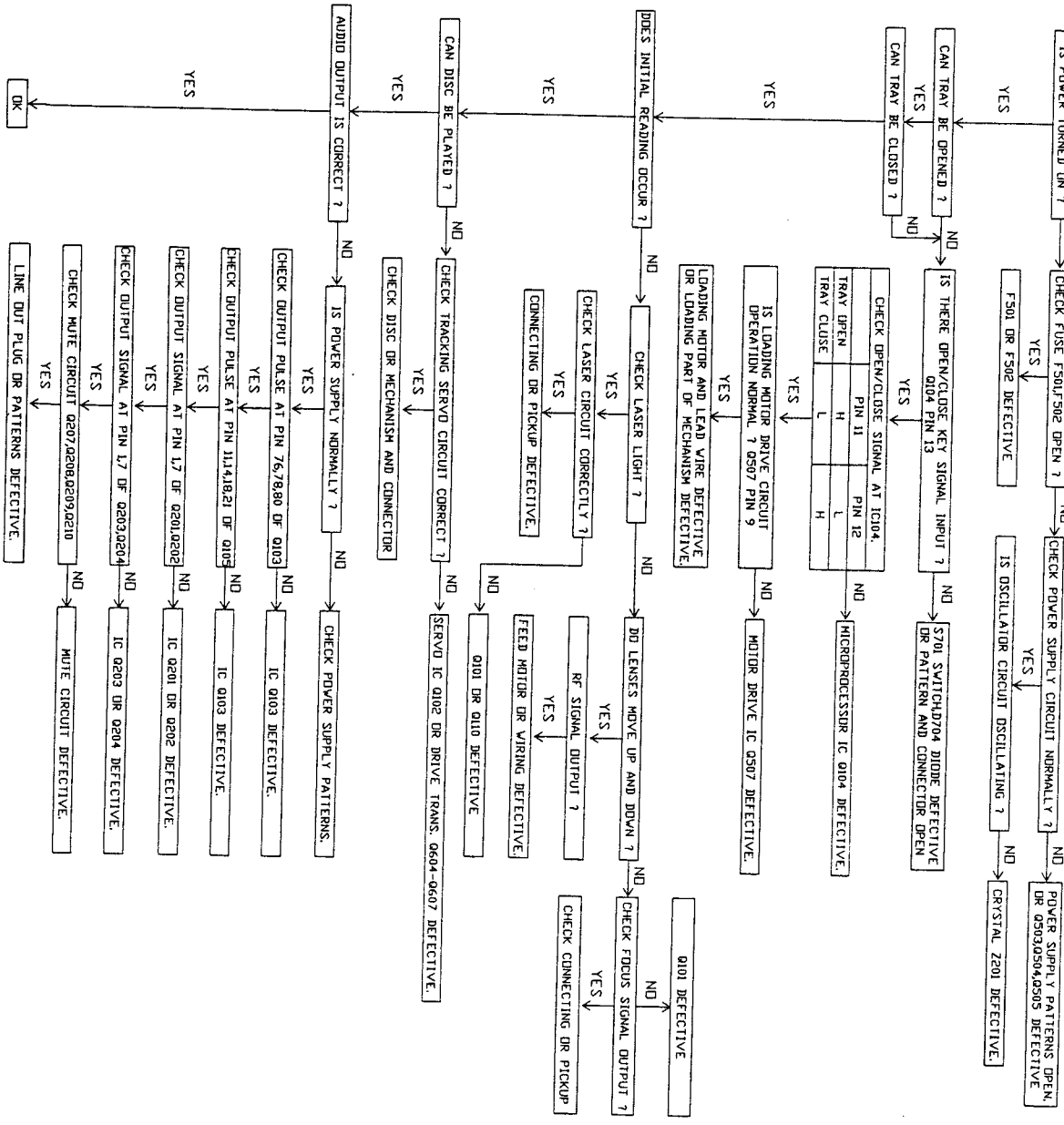
Q102: CXA1082Q



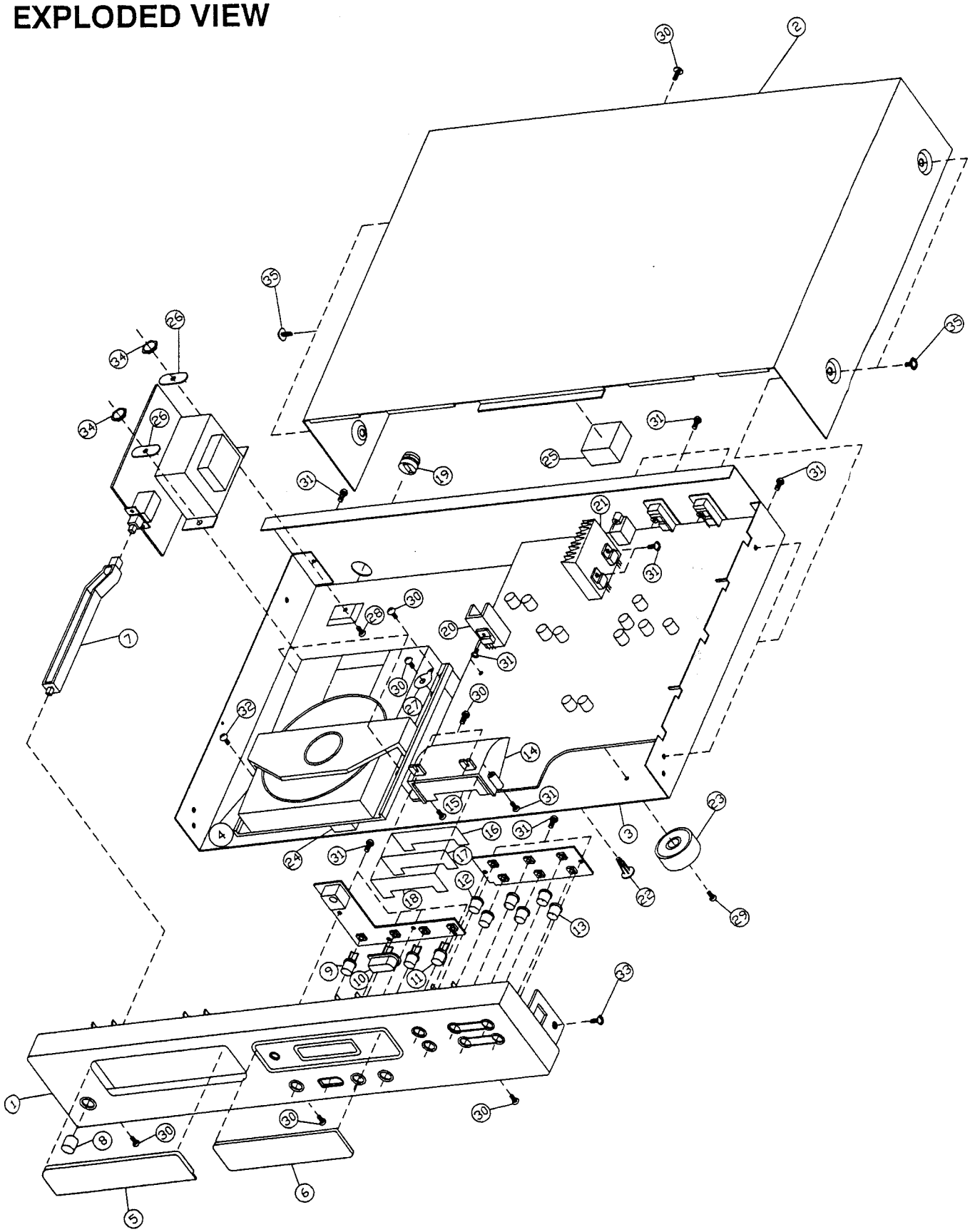
Q105: MN6471M / MN6474M



TROUBLE SHOOTING GUIDE



EXPLODED VIEW

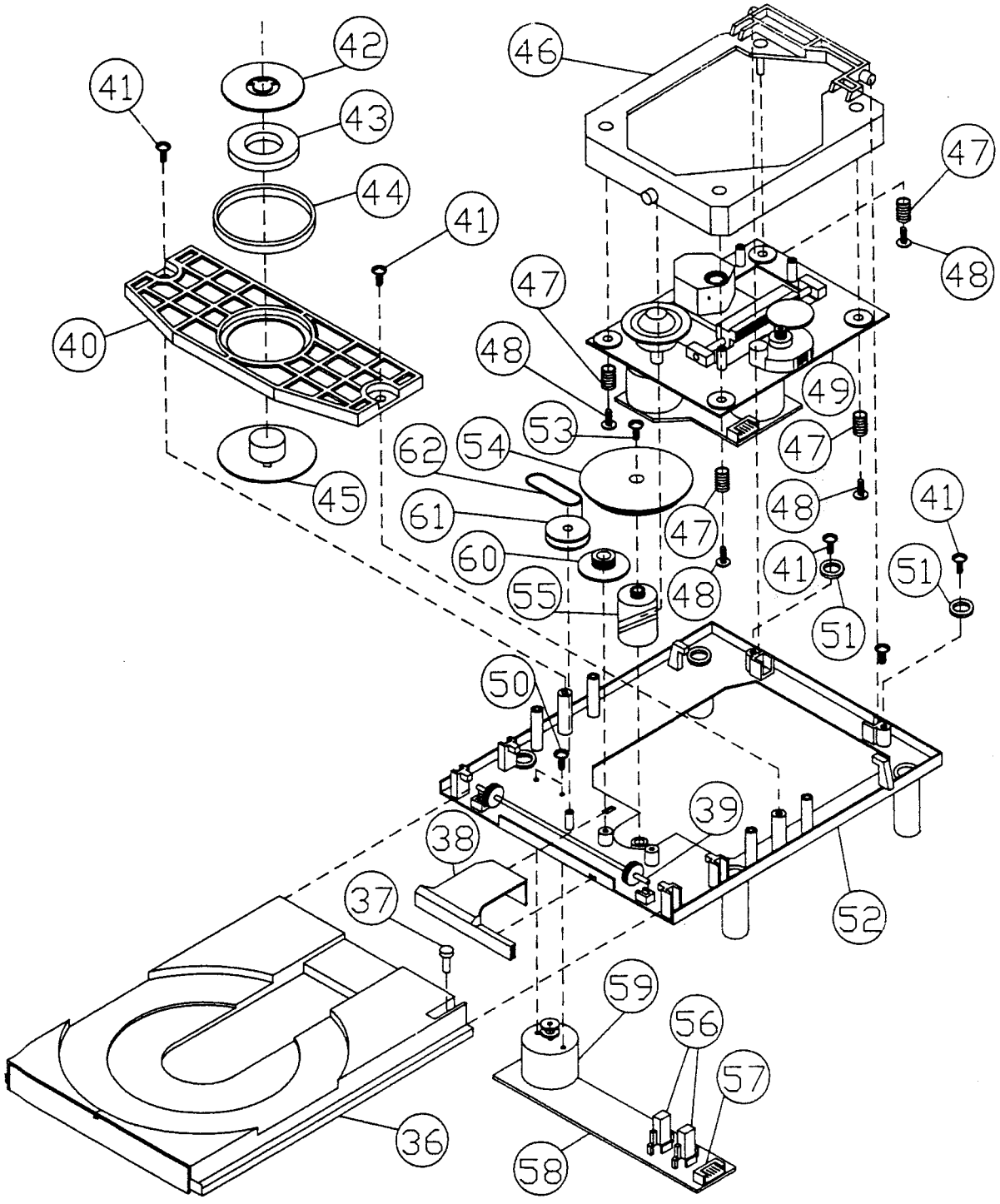


EXPLODED VIEW PARTS LIST

ITEM	PART NO.	DESCRIPTION	Q'TY
1	5541309100	FRONT PANEL	1
2	5541003700	TOP COVER	1
3	5547139800	CHASSIS	1
4	5557102100	CD-MECHANISM	1
5	5542234800	CD DOOR	1
6	5542910300	WINDOW	1
7	5542234700	POWER SPACER	1
8	5541548700	POWER KNOB	1
9	5541547221	BUTTON C (GRY)	2
10	5541547230	BUTTON D	1
11	5541547220	BUTTON C (BLACK)	1
12	5541547200	BUTTON A	2
13	5541547210	BUTTON B	4
14	5542234600	LCD COVER	1
15	5547531910	REFLECTOR	1
16	5547534900	FILTER (216)	1
17	5547534910	FILTER (202)	1
18	5547532920	FILTER (201)	1
19	5547501200	BUSHING POWER CORD	1
20	5545306900	HEAT SINK (S)	1
21	5545310600	HEAT SINK (A)	1
22	5547530430	PCB SUPPORT	1
23	5542234500	FOOT	4
24	5532411320	SPONGE (17x17x17)	1
25	5532411330	SPONGE (25x20x15t)	1
26	5542805500	RETAINER	2
27	5540100701	BINDER	2
28	7000311122	MACHINE SCREW M4x10 W/W ZN-BLK	2
29	7132160652	TAPPING SCREW M3x6 W/W ZN	4
30	7033160656	TAPPING SCREW M3x6 ZN-BLK	10
31	7033161152	TAPPING SCREW M3x8 ZN	17
32	7001170612	MACHINE SCREW M3x6 ZN-BLK	1
33	7034161156	TAPPING SCREW FLT M3x8 ZN-BLK	2
34	7076260012	NUT M4 ZN	2
35	7190550003	MACHINE SCREW M4x6 W/W ZN-BLK	4

MECHANISM EXPLODED VIEW

KSL-2101ABM



KSL-2101ABM SERVICE PARTS LIST

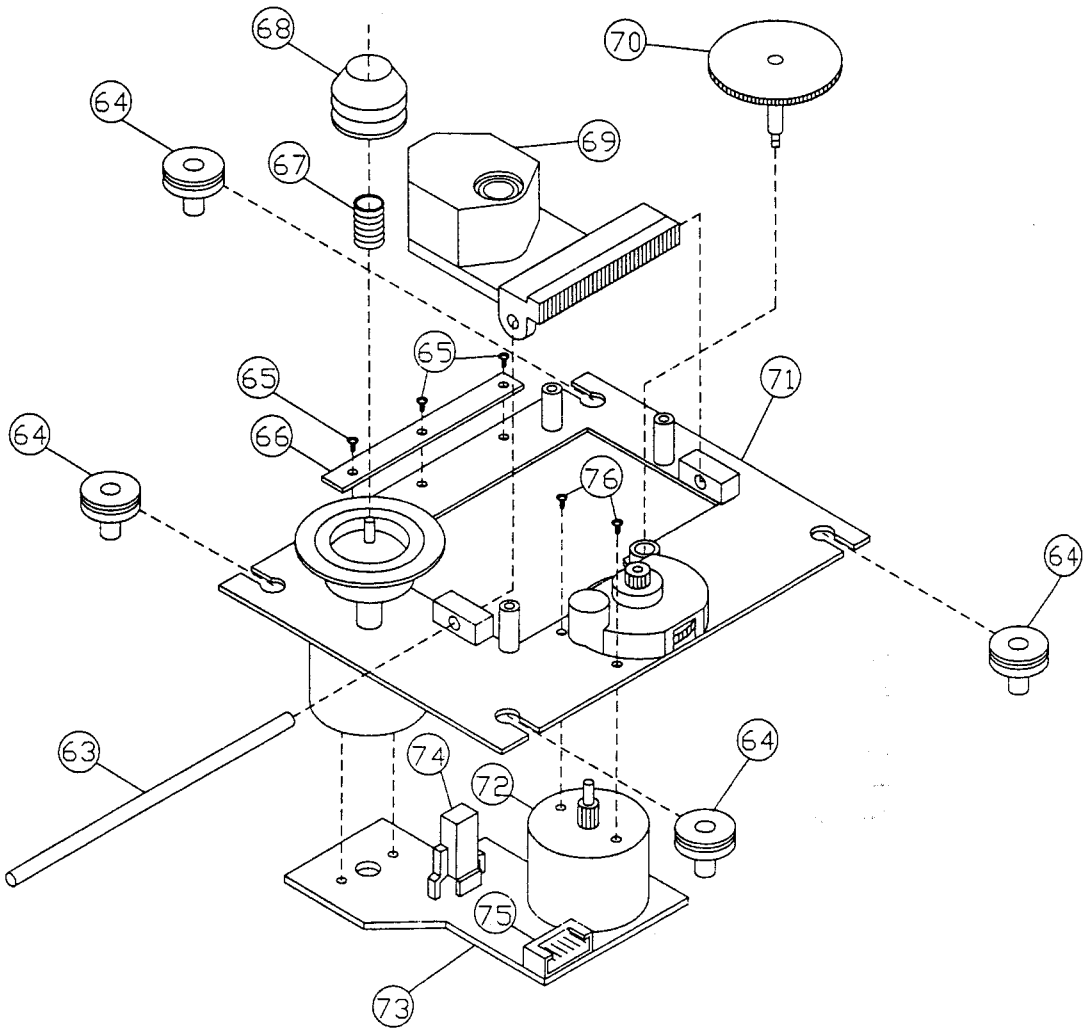
KSL-2101ABM SERVICE PARTS

CLASSIFICATION
□:SUPPLIED
U:NOT SUPPLIED

NO	PART NO	DESCRIPTION	Q'TY	CLASSIFICATION	
				RPC	USER
36	2-626-009-(01)	TRAY (G)	1	□	
37	THIS PART DOESN'T BELONG TO THE TRAY TAKE IT DOWN FROM OLD TRAY AND USE AGAIN WHEN CHANGING THE TRAY				
38	2-626-006-(01)	COVER (G), GEAR	1	□	
39	2-625-998-(01)	GEAR (G), TRAY	1	□	
40	2-626-004-(01)	PLATE (G) CHUCKING	1	□	
41	3-319-501-(11)	SCREW +PTPWH 2.6X8	4	□	
42	2-625-537-(01)	YOKE (S),CHUCKING	1	□	
43	1-452-493-(21)	MAGNET	1	□	
44	2-625-541-(01)	DAMPER (S)	1	□	
45	2-626-002-(01)	PULLEY (G),CHUCKING	1	□	
46	X-2625-379-(01)	CHASSIS A'SSY (G),SUB	1	□	
47	2-625-539-(01)	SPRING (S)	4	□	
48	2-644-410-(02)	WASHER BASED SCREW	4	□	
49	KSM-2101ABM	DRIVE UNIT	1	U	
50	2-625-279-(01)	SCREW +B2.6X2.5	2	U	
51	3-464-123-(02)	SPACER	2	U	
52	2-626-010-(01)	CHASSIS (G),OUTSERT MAIN	1	U	
53	3-319-501-(51)	SCREW +PTPWH 2.6X16	1	U	
54	2-626-003-(01)	GEAR (G),DRIVE	1	□	
55	2-626-005-(01)	CAM (G),CONTROL	1	□	
56	1-572-086-(11)	SWITCH,LEAF	2	□	
57	1-564-721-(11)	PIN,CONNECTOR 5P	1	□	
58	1-640-523-(11)	PC BOARD,LOADING	1	□	
59	X-2625-117-(1)	MOTOR A'SSY,LOADING	1	□	
60	2-625-999-(01)	GEAR(G),MIDWAY	1	□	
61	2-625-997-(01)	PULLEY (G),LADING	1	□	
62	3-653-387-(01)	BELT,LM	1	□	

MECHANISM EXPLODED VIEW

KSM-2101ABM



KSM-2101ABM SERVICE PARTS LIST

CLASSIFICATION
□:SUPPLIED
U:NOT SUPPLIED

NO	PART NO	DESCRIPTION	Q'TY	CLASSIFICATION	
				RPC	USER
63	2-625-464-(01)	SHAFT (S), SLED	1	□	
64	2-625-538-(01)	INSULATOR (S)	4	□	
65	2-641-386-(01)	SCREW (2X5), TAPPING (S)	3	□	
66	2-625-625-(01)	REINFORCEMENT(S)	1	□	
67	2-625-465-(01)	SPRING (S) COMPRESSION	1	□	
68	2-625-477-(01)	RING (LO) (S),CENTER	1	□	
69	8-848-127-(31)	PICK UP KSS-210A (S) (RP)	1	□	
70	2-625-462-(01)	GEAR (A) (S)	1	□	
71	X-2625-133-(2)	CHASSIS A'SSY (MB), TT WITH DISC MOTOR & TABLE	1	□	
72	X-2625-132-(1)	GEAR A'SSY (MB), MOTOR	1	□	
73	1-639-678-(12)	PC BOARD, MOTOR (GP) (S)	1	□	
74	1-572-085-(12)	SWITCH LEAF	1	□	
75	1-564-722-(11)	PIN CONNECTOR GP	1	□	
76	7-621-255-(15)	SCREW +P 2X3	2	U	

PARTS LIST

NAD-502 PARTS LIST

SYMBOL NO	REF. NO.	PART NO.	DESCRIPTION			Q'TY
PCB ASS'Y		(5090404025)	NAD-502			1
MAIN PCB BLOCK		(5090904020)	NAD-502			1
PC BOARD						
B101	5553137200	5553137200	MAIN PCB	328x197	NAD-502	1
CAPACITORS						
C101	5213601091	5213601091	CAP. EL.	1.0uFM	+/-20% 50V	1
C102	5213647991	5213647991	CAP. EL.	4.7uFM	+/-20% 50V	1
C106	5222110491	5222110491	CAP. POLY.	0.1MFJ	+/-5% 50V	1
C107	5213610091	5213610091	CAP. EL.	10uFM	+/-20% 50V	1
C108	5222110491	5222110491	CAP. POLY.	0.1MFJ	+/-5% 50V	1
C109	5213633991	5213633991	CAP. EL.	3.3uFM	+/-20% 50V	1
C110	5222147391	5222147391	CAP. POLY.	47000PFJ	+/-5% 50V	1
C111	5222110491	5222110491	CAP. POLY.	0.1MFJ	+/-5% 50V	1
C112	5231547201	5231547201	CAP. CER.	4700PFM	+/-20% 50V	1
C113	5213110191	5213110191	CAP. EL.	100uFM	+/-20% 6.3V	1
C114	5231510291	5231510291	CAP. CER.	1000PFM	+/-20% 50V	1
C115	5222133391	5222133391	CAP. POLY.	33000PFJ	+/-5% 50V	1
C116	5213647891	5213647891	CAP. EL.	0.47uFM	+/-20% 50V	1
C117	5231522291	5231522291	CAP. CER.	2200PFM	+/-20% 50V	1
C118	5213647891	5213647891	CAP. EL.	0.47uFM	+/-20% 50V	1
C119	5231547291	5231547291	CAP. CER.	4700PFM	+/-20% 50V	1
C120	5222133391	5222133391	CAP. POLY.	33000PFJ	+/-5% 50V	1
C121	5213110191	5213110191	CAP. EL.	100uFM	+/-20% 6.3V	1
C122	5222133391	5222133391	CAP. POLY.	33000PFJ	+/-5% 50V	1
C123	5231810391	5231810391	CAP. CER.	10000PFZ	+80-20% 50V	1
C124	5231510291	5231510291	CAP. CER.	1000PFM	+/-20% 50V	1
C125	5213110191	5213110191	CAP. EL.	100uFM	+/-20% 6.3V	1
C126	5231522291	5231522291	CAP. CER.	2200PFM	+/-20% 50V	1
C127	5213110191	5213110191	CAP. EL.	100uFM	+/-20% 6.3V	1
C128	5222122391	5222122391	CAP. POLY.	22000PFJ	+/-5% 50V	1
C129	5213110191	5213110191	CAP. EL.	100uFM	+/-20% 6.3V	1
C131	5236168391	5236168391	CAP. SEMI.	68000PFK	+/-10% 25V	1
C201	5222147391	5222147391	CAP. POLY.	47000PFJ	+/-5% 50V	1
C202	5237310491	5237310491	CAP. SEMI.	0.1uFZ	+80-20% 16V	1
C203,C204	5247105091	5247105091	CAP. CER.	5.0PFC	50V	2
C205	5237310491	5237310491	CAP. SEMI.	0.1uFZ	+80-20% 16V	1
C206-C208	5222147391	5222147391	CAP. POLY.	47000PFJ	+/-5% 50V	3
C209-C212	5226120100	5226120100	CAP. POLY.	200PFJ	+/-5% 50V	4
C213-C216	5247047091	5247047091	CAP. CER.	47PFJ	+/-5% 50V	4
C217-C220	5225647291	5225647291	CAP. POLY.	4700PFJ	+/-5% 50V	4
C221,C222	5225310291	5225310291	CAP. POLY.	1000PFJ	+/-5% 50V	2
C223,C224	5225339391	5225339391	CAP. POLY.	39000PFJ	+/-5% 50V	2
C225,C226	5225347291	5225347291	CAP. POLY.	4700PFJ	+/-5% 50V	2
C227,C228	5226120100	5226120100	CAP. POLY.	200PFJ	+/-5% 50V	2
C231,C232	5237310491	5237310491	CAP. SEMI.	0.1uFZ	+80-20% 16V	2
C233-C236	5222110391	5222110391	CAP. POLY.	10000PFJ	+/-5% 50V	4
C237,C238	5222122291	5222122291	CAP. POLY.	2200PFJ	+/-5% 50V	2
C239	5213110191	5213110191	CAP. EL.	100uFM	+/-20% 6.3V	1
C240-C243	5213133191	5213133191	CAP. EL.	330uFM	+/-20% 6.3V	4
C244	5213110191	5213110191	CAP. EL.	100uFM	+/-20% 6.3V	1
C246-C249	5270203101	5270203101	CAP. META.	0.47MFJ	+/-5% 50V	4
C501,C502	5213422212	5213422212	CAP. EL.	2200uFM	+/-20% 25V	2
C503,C504	5213310212	5213310212	CAP. EL.	1000uFM	+/-20% 16V	2
C505	5272222301	5272222301	CAP. META.	22000PFK	+/-10% 250V	1
C507,C508	5213333110	5213333110	CAP. EL.	330uFM	+/-20% 16V	2
C509	5237310491	5237310491	CAP. SEMI.	0.1uFZ	+80-20% 16V	1
C510	5213247091	5213247091	CAP. EL.	47uFM	+/-20% 10V	1
C511-C518	5213310191	5213310191	CAP. EL.	100uFM	+/-20% 16V	8
C519	5213647891	5213647891	CAP. EL.	0.47uFM	+/-20% 50V	1
C520	5213610091	5213610091	CAP. EL.	10uFM	+/-20% 50V	1
C521-C523	5213110191	5213110191	CAP. EL.	100uFM	+/-20% 6.3V	3
C524	5231810391	5231810391	CAP. CER.	1000PFZ	+80-20% 50V	1
C525,C526	5213347112	5213347112	CAP. EL.	470uFM	+/-20% 16V	2
C527-C530	5222147391	5222147391	CAP. POLY.	47000PFJ	+/-5% 50V	4
C601	5213601091	5213601091	CAP. EL.	1.0uFM	+/-20% 50V	1
C602-C604	5247022091	5247022091	CAP. CER.	22PFJ	+/-5% 50V	3
C605	5237310491	5237310491	CAP. SEMI.	0.1uFZ	+80-20% 16V	1
C612	5213633991	5213633991	CAP. EL.	3.3uFM	+/-20% 50V	1
C613	5213110191	5213110191	CAP. EL.	100uFM	+/-20% 6.3V	1
C701	5213222091	5213222091	CAP. EL.	22uFM	+/-20% 10V	1
C702	5231510291	5231510291	CAP. CER.	1000PFM	+/-20% 50V	1
C703	5237310491	5237310491	CAP. SEMI.	0.1uFZ	+80-20% 16V	1
DIODES						
D101	5551201100	5551201100	LCD	HLC9941-01-2410		1
D201,D202	HZ-5C-2	6615009753	DIODE ZENER	HZ-5C-2	5-5.2V	2
D501-D504	1N4002	6611007230	DIODE RECTIFIER	1N4002	100V 1A	4
D505,D506	5551102710	5551102710	LAMP	16V	65mA	2
D601-D615	1N4148	6613003030	DIODE SWITCHING	1N4148		15
FUSES						
F501*AH	5554306501	5554306501	FUSE, (5.2x20)	250V	500mA UL/CSA	1
F501*B1	5554306500	5554306500	FUSE, (5.2x20)	250V	500mA SEMKO	1
F501*C	5554306500	5554306500	FUSE, (5.2x20)	250V	500mA SEMKO	1

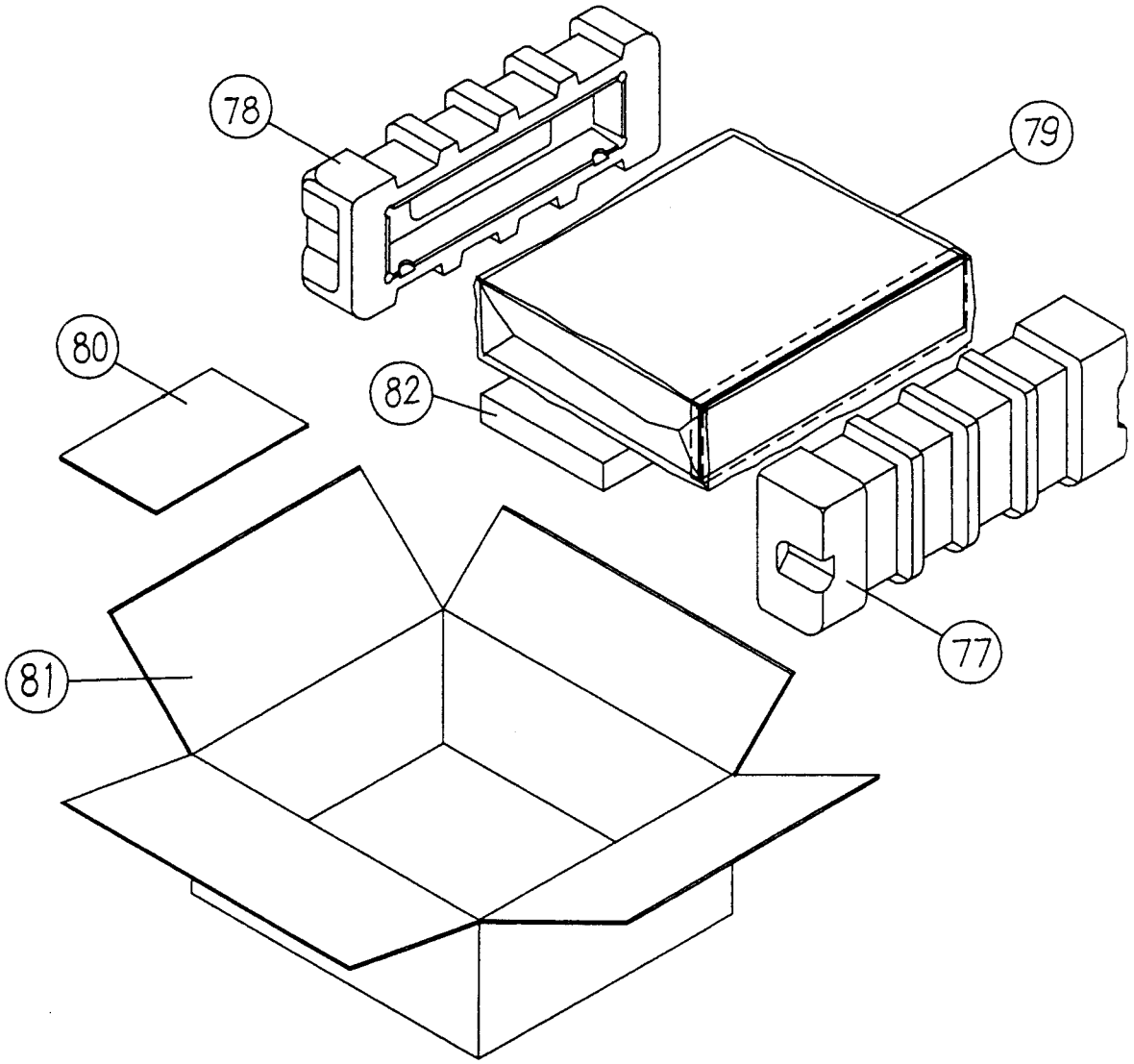
NAD-502 PARTS LIST

SYMBOL NO	REF. NO.	PART NO.	DESCRIPTION				Q'TY
F502*AH	5554306501	5554306501	FUSE, (5.2x20)	250V	500mA	UL/CSA	1
F502*B1	5554306500	5554306500	FUSE, (5.2x20)	250V	500mA	SEMKO	1
F502*C	5554306500	5554306500	FUSE, (5.2x20)	250V	500mA	SEMKO	1
ICS							
Q101	CXA1081M	6644005700	IC LINEAR	CD PLAY RF AMP 30P			1
Q102	CXA1082BQ	6644005800	IC LINEAR	CD PLAY SERVO 48P			1
Q103	CXD1167Q	6647003700	IC LSI	CD DSP 80P			1
Q104	CXP1011Q	6647050600	IC LSI	64PIN QFP			1
Q105*A	MN6471M	6649000300	IC D/A CONVERTER	40P	18BIT		1
Q105*B	MN6474	6649000301	IC D/A CONVERTER	40P			1
Q105*C	MN6474AM	6649000302	IC D/A CONVERTER	40P			1
Q201-Q204	NE5532N	6644007100	IC LINEAR	DUAL OP AMP 8P			4
Q501	LM7815CT	6640007501	IC VOLTAGE REGULATOR	15V TO-220 3P			1
Q502	LM7915CT	6640006801	IC VOLTAGE REGULATOR	15V TO-220 3P			1
Q505	M5290P	6640004900	IC VOLTAGE REGULATOR	M5290P+/-5V W/RESET 16V			1
Q507	TA7256P	6644006000	IC LINEAR	TA7256P DUAL OP AMP 8P			1
Q601	TMS70CT40	6647050500	IC LSI CMOS	TMS70CT40 C25311NF 28P			1
Q701	TC74HC00AP	6646064105	IC DIGITAL	TC74HC00AP COMS 2-IN NAND			1
TRANSISTORS							
Q106	2SA1015-Y	6623002050	TR. PNP HF	TPE2 TAPING			1
Q107-Q109	2SC1815-Y	6621015332	TR. PNP HF	TPE2			3
Q110*A	2SB1013	6624000900	TR. PNP LF	PC=0.7W	VCBO=20V		1
Q110*B	2SA950Y	6623002801	TR. PNP HF	2SA950Y			1
Q205-Q210	2SC2878-A	6621018700	TR. NPN HF	LOW NOISE			6
Q211	2SA1015-Y	6623002050	TR. PNP HF	TPE2 TAPING			1
Q503*A	2SB1133Q	6624000700	TR. PNP LF	PC=2W	VCBO=60		1
Q503*B	2SB1375	6624000500	TR. PNP LF				1
Q504*A	2SD1666	6622001300	TR. NPN LF	PC=2W	VCBO=60		1
Q504*B	2SD2012	6622014100	TR. NPN LF	2SD2012			1
Q508-Q511	2SA1015-Y	6623002050	TR. PNP HF	2SA1015-Y TPE2 TAPING			4
Q602	2SC1815-Y	6621015332	TR. PNP HF	2SC1815-Y TPE2			1
Q603	2SA1015-Y	6623002050	TR. PNP HF	2SA1015-Y TPE2 TAPING			1
Q604	2SD1225MR	6622021300	TR. NPN LF	2SD1225MR			1
Q605	2SB909MR	6624011800	TR. PNP LF	2SB909MR			1
Q606	2SD1225MR	6622021300	TR. NPN LF	2SD1225MR			1
Q607	2SB909MR	6624011800	TR. PNP LF	2SB909MR			1
Q608	2SD1225MR	6622021300	TR. NPN LF	2SD1225MR			1
Q609	2SB909MR	6624011800	TR. PNP LF	2SB909MR			1
RESISTORS							
R101,R103	5142810390	5142810390	RES. CARBON FILM	10KJ	+/-5%	1/4W	2
R102	5142822490	5142822490	RES. CARBON FILM	220KJ	+/-5%	1/4W	1
R104	5142882290	5142882290	RES. CARBON FILM	8.2KJ	+/-5%	1/4W	1
R105	5142812490	5142812490	RES. CARBON FILM	120KJ	+/-5%	1/4W	1
R106	5142110490	5142110490	RES. CARBON FILM	100KJ	+/-5%	1/6W	1
R109	5142133390	5142133390	RES. CARBON FILM	33KJ	+/-5%	1/6W	1
R110	5142118490	5142118490	RES. CARBON FILM	180KJ	+/-5%	1/6W	1
R111	5142110490	5142110490	RES. CARBON FILM	100KJ	+/-5%	1/6W	1
R112	5142151490	5142151490	RES. CARBON FILM	510KJ	+/-5%	1/6W	1
R113	5142810490	5142810490	RES. CARBON FILM	100KJ	+/-5%	1/4W	1
R114	5142110490	5142110490	RES. CARBON FILM	100KJ	+/-5%	1/6W	1
R115	5142810390	5142810390	RES. CARBON FILM	10KJ	+/-5%	1/4W	1
R116	5142112490	5142112490	RES. CARBON FILM	120KJ	+/-5%	1/6W	1
R117	5142136290	5142136290	RES. CARBON FILM	3.6KJ	+/-5%	1/6W	1
R118	5142820390	5142820390	RES. CARBON FILM	20KJ	+/-5%	1/4W	1
R119	5142110590	5142110590	RES. CARBON FILM	1.0MJ	+/-5%	1/6W	1
R120	5142891390	5142891390	RES. CARBON FILM	91KJ	+/-5%	1/4W	1
R121,R122	5142882390	5142882390	RES. CARBON FILM	82KJ	+/-5%	1/4W	2
R123	5142191390	5142191390	RES. CARBON FILM	91KJ	+/-5%	1/6W	1
R124	5142147290	5142147290	RES. CARBON FILM	4.7KJ	+/-5%	1/6W	1
R125	5142847290	5142847290	RES. CARBON FILM	4.7KJ	+/-5%	1/4W	1
R126	5142122390	5142122390	RES. CARBON FILM	22KJ	+/-5%	1/6W	1
R127	5142810390	5142810390	RES. CARBON FILM	10KJ	+/-5%	1/4W	1
R128	5142110490	5142110490	RES. CARBON FILM	100KJ	+/-5%	1/6W	1
R129	5142111390	5142111390	RES. CARBON FILM	11KJ	+/-5%	1/6W	1
R130	5142122390	5142122390	RES. CARBON FILM	22KJ	+/-5%	1/6W	1
R131	5142124390	5142124390	RES. CARBON FILM	24KJ	+/-5%	1/6W	1
R132	5142822090	5142822090	RES. CARBON FILM	22J	+/-5%	1/4W	1
R133	5142191090	5142191090	RES. CARBON FILM	91J	+/-5%	1/6W	1
R134,R135	5142822390	5142822390	RES. CARBON FILM	22KJ	+/-5%	1/4W	2
R138	5142810490	5142810490	RES. CARBON FILM	100KJ	+/-5%	1/4W	1
R139	5142810290	5142810290	RES. CARBON FILM	1KJ	+/-5%	1/4W	1
R140	5142847290	5142847290	RES. CARBON FILM	4.7KJ	+/-5%	1/4W	1
R141,R142	5142147390	5142147390	RES. CARBON FILM	47KJ	+/-5%	1/6W	2
R143	5142847290	5142847290	RES. CARBON FILM	4.7KJ	+/-5%	1/4W	1
R144	5142833390	5142833390	RES. CARBON FILM	33KJ	+/-5%	1/4W	1
R201	5142847290	5142847290	RES. CARBON FILM	4.7KJ	+/-5%	1/4W	1
R202	5142810390	5142810390	RES. CARBON FILM	10KJ	+/-5%	1/4W	1
R203-R206	5134710029	5134710029	RES. METAL FILM	10KF	+/-1%	1/6W	4
R207-R210	5142815190	5142815190	RES. CARBON FILM	150J	+/-5%	1/4W	4
R211-R214	5134727029	5134727029	RES. METAL FILM	27KF	+/-1%	1/6W	4
R215-R218	5134747029	5134747029	RES. METAL FILM	47KF	+/-1%	1/6W	4
R219,R220	5134716019	5134716019	RES. METAL FILM	1.6KF	+/-1%	1/6W	2
R221,R222	5134730019	5134730019	RES. METAL FILM	3KF	+/-1%	1/6W	2

NAD-502 PARTS LIST

SYMBOL NO	REF. NO.	PART NO.	DESCRIPTION				Q'TY
R223,R224	5134768009	5134768009	RES. METAL FILM	680F	+/-1%	1/6W	2
R225,R226	5134747019	5134747019	RES. METAL FILM	4.7KF	+/-1%	1/6W	2
R227,R228	5134712019	5134712019	RES. METAL FILM	1.2KF	+/-1%	1/6W	2
R229,R230	5134736019	5134736019	RES. METAL FILM	3.6KF	+/-1%	1/6W	2
R231,R232	5134739009	5134739009	RES. METAL FILM	390F	+/-1%	1/6W	2
R233,R234	5142110590	5142110590	RES. CARBON FILM	1MJ	+/-5%	1/6W	2
R235-R238	5134747019	5134747019	RES. METAL FILM	4.7KF	+/-1%	1/6W	4
R239,R240	5142810390	5142810390	RES. CARBON FILM	10KJ	+/-5%	1/4W	2
R241,R242	5142856090	5142856090	RES. CARBON FILM	56J	+/-5%	1/4W	2
R243,R244	5142810390	5142810390	RES. CARBON FILM	10KJ	+/-5%	1/4W	2
R245,R246	5142856090	5142856090	RES. CARBON FILM	56J	+/-5%	1/4W	2
R247,R248	5142810390	5142810390	RES. CARBON FILM	10KJ	+/-5%	1/4W	2
R251,R252	5142810490	5142810490	RES. CARBON FILM	100KJ	+/-5%	1/4W	2
R253	5142810190	5142810190	RES. CARBON FILM	100J	+/-5%	1/4W	1
R256	5142810490	5142810490	RES. CARBON FILM	100KJ	+/-5%	1/4W	1
R257-R260	5142822390	5142822390	RES. CARBON FILM	22KJ	+/-5%	1/4W	4
R261,R262	5142822490	5142822490	RES. CARBON FILM	220KJ	+/-5%	1/4W	2
R501,R502	5142847290	5142847290	RES. CARBON FILM	4.7KJ	+/-5%	1/4W	2
R503,R504	5142856090	5142856090	RES. CARBON FILM	56J	+/-5%	1/4W	2
R505,R506	5142810390	5142810390	RES. CARBON FILM	10KJ	+/-5%	1/4W	2
R507-R514	5130222103	5130222103	RES. METAL OXIDE FILM, MINI	220J	+/-5%	1/2W	8
R516,R517	5130268003	5130268003	RES. METAL OXIDE FILM, MINI	68J	+/-5%	1/2W	2
R518	5142827090	5142827090	RES. CARBON FILM	27J	+/-5%	1/4W	1
R601	5142810490	5142810490	RES. CARBON FILM	100KJ	+/-5%	1/4W	1
R603	5142810590	5142810590	RES. CARBON FILM	1MJ	+/-5%	1/4W	1
R604	5142847390	5142847390	RES. CARBON FILM	47KJ	+/-5%	1/4W	1
R605	5142810390	5142810390	RES. CARBON FILM	10KJ	+/-5%	1/4W	1
R606	5142818290	5142818290	RES. CARBON FILM	1.8KJ	+/-5%	1/4W	1
R607,R608	5142810190	5142810190	RES. CARBON FILM	100J	+/-5%	1/4W	2
R609	5142822390	5142822390	RES. CARBON FILM	22KJ	+/-5%	1/4W	1
R610	5142818290	5142818290	RES. CARBON FILM	1.8KJ	+/-5%	1/4W	1
R611	5142810190	5142810190	RES. CARBON FILM	100J	+/-5%	1/4W	1
R612	5142810290	5142810290	RES. CARBON FILM	1KJ	+/-5%	1/4W	1
R613	5142182290	5142182290	RES. CARBON FILM	8.2J	+/-5%	1/6W	1
R614-R616	5142122390	5142122390	RES. CARBON FILM	22KJ	+/-5%	1/6W	3
R617,R618	5142822390	5142822390	RES. CARBON FILM	22KJ	+/-5%	1/4W	2
R619	5142110390	5142110390	RES. CARBON FILM	10KJ	+/-5%	1/6W	1
R623	5142822390	5142822390	RES. CARBON FILM	22KJ	+/-5%	1/4W	1
R624	5142122290	5142122290	RES. CARBON FILM	2.2K		1/6W	1
R701	5142875090	5142875090	RES. CARBON FILM	75J	+/-5%	1/4W	1
VAR. RES.							
RV101	PN06FB102AR	5162161020	VAR. RES.	1KM	+/-20%	0.3W	1
RV102	PN06FB224AR	5162163120	VAR. RES.	220KM	+/-20%	0.3W	1
RV103-RV105	PN06FB223AR	5162162220	VAR. RES.	22KM	+/-20%	0.3W	3
COILS							
T701	5564500200	5564500200	COIL	CO2-400-10026			1
CRYSTALS							
Z201	6699004100	6699004100	CRYSTAL UNIT	33.8688MHz CL:30PF +/-30PP			1
Z601	5550105700	5550105700	CERAMIC RESONATOR	CSA4.915MHzMG			1
CONTROL PCB BLOCK		(5090904021)	NAD-502				1
SWITCHES							
S601-S610	KHH10902	5054512940	SWITCH TACT SPST	DC12V 50mA F=100GF H=4.3MM			10
IR RECEIVER							
U601	5550000300	5550000300	INFRARED R/C RECEIVER	SBX-1610-51			1
POWER TRANS. PCB BLOCK		(5090904024)	NAD-502				1
CAPACITORS							
C506	5230102701	5230102701	CAP. CERAMIC	4700PFM	+/-20%	400V	1
SWITCH							
S501	5554436110	5554436110	POWER SWITCH	SDDLB1017U-TT			1
TRANSFORMER							
T501	5561320100	5561320100	POWER TRANSFORMER	115V/230V NAD-5425			1

PACKING DIAGRAM



ITEM	PARTS NO.	DESCRIPTION	Q'TY
77	9520990155	EPS PAD FRONT	1
78	9520990255	EPS PAD REAR	1
79	9530520155	EPE BAG	1
80	5535122576	OWNERS MANUAL	1
81	9510990155	RS CARTON	1
82	9520990355	POLYLON (LOWER)	1